UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/940,753	08/28/2001	Allan Bolding	112025-0430	5800

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EXAMINER
REILLY, SEAN M

ART UNIT	PAPER NUMBER
2153	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

		Application No.	Applicant(s)
Office Action Summary		09/940,753	BOLDING ET AL.
		Examiner	Art Unit
		Sean Reilly	2153

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>22 May 2006</u>.
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-4 and 9-49* is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☒ Claim(s) *26 and 33* is/are allowed.
6) ☐ Claim(s) *1-4, 9-25, 27-32, 34-36, 38-40, 42-44, 46-49* is/are rejected.
7) ☒ Claim(s) *37, 41 and 45* is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☐ All   b) ☐ Some * c) ☐ None of:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____.
      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This Office action is in response to Applicant's amendment and request for

reconsideration filed on May 22, 2006. Claims 1-4, and 9-49 are presented for further

examination. All independent claims have been amended. Claims 36-49 are new.

Response to Arguments

Applicant's arguments are moot in view of the new grounds of rejection set forth.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or
> any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and
> requirements of this title.

5. **Claim 49 is rejected under 35 U.S.C. 101 because the claimed invention is directed to**

non-statutory subject matter.

Claim 49 is not tangibly embodied on a proper storage medium. The claim appears to recite

"electromagnetic signals" as a medium. Electromagnetic signals are not statutory subject matter

as set forth in the latest "Interim Guidelines for Examination of Patent Applications for Patent

Subject Matter Eligibility" (signed October 26th, 2005) which further clarifies computer-related

nonstatutory subject matter on pages 50-57.

<http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/guidelines101_20051026.pdf>

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-4 and 9-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Martin et al. (U.S. Patent Number 6,765,927, hereinafter "Martin") and the Real-Time

Streaming Protocol (RTSP) RFC 2326 (hereinafter RTSP) and The Use of RSVP with

IETF Integrated Services RFC 2210 (hereinafter RSVP'2210) and Resource ReSerVation

Protocol (RSVP) – Version 1 Functional Specification RFC 2205 (hereinafter RSVP'2205)

and SDP: Session Description Protocol RFC 2327 (hereinafter SDP).

In considering claims 1, 9, Martin discloses an intermediate network device for use

within a computer network having a server configured to provide one or more data streams to a

client, each stream having a corresponding bandwidth, the network device comprising:

- ❑   means for determining network traffic characteristics sufficient to identify a stream

     from the server to the client (Col 3, lines 21-24);

- ❑   a resource reservation protocol (RSVP) transmitter proxy (Col 3, line12) configured

     to reserve resources within the computer network on behalf of the server for

     allocation to the stream (Col 2, line 62 "flow characteristics" and Col 3, lines 23-27).

Note the use of RSVP'2210, RSVP'2205, RTSP, and SDP in combination was explicitly

disclosed in the RFCs themselves and thus would have motivated one of ordinary skill in the art

at the time of Applicant's invention to use them in combination in order to provide a reliable and

efficient data flow to end users. Furthermore Martin disclosed the use of RSVP within his

system and specifically left his system open ended to work with any flow (Col 3, lines 15-17, 47-

54 and Col 8, lines 4-10). Thus it would have been obvious to one of ordinary skill in the art at

the time of Applicant's to utilize RSVP, RTSP, and SDP within Martin's system in order to

provide a reliable and efficient data flow to end users.

Martin disclosed the invention substantially as claimed however, Martin failed to

specifically recite snooping packets to determine the bandwidth of the stream from RTSP

response messages. Nonetheless Martin specifically disclosed snooping packets to generate a

proper RSVP Path message which includes both a TSPEC and ADSPEC in order to reserve the

required resources for the flow (see inter alia, Col 3, lines 21-27 and Col 5, lines 1-10). As

disclosed by RSVP'2210 section 3.1 the TSPEC and ADSPEC objects include a bandwidth field.

Thus, it would have been obvious to one of ordinary skill in the art at the time of Applicant's

invention to snoop any packet in the flow to determine the bandwidth of the flow for the TSPEC

and ADSPEC objects in order to generate a proper RSVP path message. Further as evidenced by

at least SDP, the RTSP describe response messages (which contain an SDP) include a field that

describes the bandwidth of the flow (see SDP the Bandwidth section field b which specifies the

proposed bandwidth). Since the RTSP describe response messages include the bandwidth of the

flow it would have been obvious to one of ordinary skill in the art at the time of Applicant's

invention to snoop RTSP describe response messages to determine the bandwidth information of

the flow, in order to generate a proper RSVP path message (and associated TSPEC/ADSPEC) as

Martin requires.

In considering claim 2, Martin discloses the intermediate network device of claim 1 wherein the RSVP transmitter proxy is configured to generate and send one or more RSVP Path messages on behalf of the server, the one or more RSVP Path messages containing the network traffic characteristics and the bandwidth of the stream (Col 3, lines 23-27).

In considering claim 3, Martin discloses the intermediate network device of claim 2 wherein the RSVP transmitter proxy is configured to terminate RSVP Reservation (Resv) messages that are sent to the Server (Col 3, lines 42-46). [Figure 1 also shows a clear illustration of where the Resv messages travel, from the client (Component 120) to termination at the proxy server (Component 140).]

In considering claim 4, Martin discloses an RSVP host proxy which is capable of generating RSVP Path messages and receiving RSVP Resv messages on behalf of a server as stated above. However, Martin fails to disclose an RSVP host proxy which is capable of generating RSVP Path Teardown messages on behalf of a server. Nonetheless, the use of RSVP Path Teardown messages is well known, as referenced by RFC 2205.

Martin discloses that the RSVP host proxy supports the RSVP protocol set forth in RFC 2205 (Martin Col 3, lines 1-5). Section 2.4 of RFC 2205 discusses the use of RSVP Path Teardown messages within the RSVP protocol. RFC 2205 goes on to recommend "that all end hosts send a teardown request as soon as an application finishes" (Section 2.4, paragraph 1). Thus, giving the teachings of RFC 2205, it would have been obvious to a person having ordinary skill in the art to design the Martin system to support RSVP Path Teardown messages, since the messages are recommended by the RSVP protocol.

In considering claim 10, Martin discloses the intermediate network device of claim 9 further comprising a session manager configured to store the network traffic characteristics and bandwidth of the stream (Col 4, lines 27-29).

In considering claim 11, the RTSP protocol discloses an RTSP state manager which includes one or more state machine engines, configured to maintain the RTSP state of the stream (RFC 2326, Appendix A.2).

In considering claim 12, Martin discloses the intermediate network device of claim 2 wherein

- the client has a network layer address and a transport layer port for use in receiving the stream from the server (Col 4, line 59-61; included in a Path message),

- the server has a network layer address and a transport layer port for use in sending the stream to the client (Col 4, line 59-61), and

- the network traffic characteristics include the client's network layer address and transport layer port and the server's network layer address and transport layer port (Col 4, line 59-61).

In considering claim 13, Martin discloses the intermediate network device of claim 12 wherein the stream uses a given transport layer protocol, and the network traffic characteristics include the given transport layer protocol (Col 4, line 59-61).

In considering claim 14, Martin discloses the intermediate network device of claim 13 wherein the RSVP Path messages generated and sent by the RSVP transmitter proxy on behalf of the server include a session object containing the client's network layer address and transport layer port and the transport layer protocol associated with the stream (Col 4, line 59-61).

In considering claim 15, Martin discloses the intermediate network device of claim 14

wherein the RSVP Path message includes a sender template object containing the server's

network layer address and transport layer port associated with the stream (Col 4, line 59-61).

In considering claim 16, Martin discloses the intermediate network device of claim 15

wherein the RSVP Path message includes a sender Tspec object containing the bandwidth of the

stream (Col 5, line 4).

2. Claims 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin

and the Real-Time Streaming Protocol (RTSP) RFC 2326 (hereinafter RTSP) and The Use

of RSVP with IETF Integrated Services RFC 2210 (hereinafter RSVP'2210) and Resource

ReSerVation Protocol (RSVP) – Version 1 Functional Specification RFC 2205 (hereinafter

RSVP'2205) and SDP: Session Description Protocol RFC 2327 (hereinafter SDP) and

"Format of the RSVP DCLASS Object" Request for Comment 2996 (hereinafter RFC

2996).

In considering claim 17, claim 17 is rejected using similar rationale as set forth with

regard to claim 1.

In further considering claims 17-19 and the use of DSCP, as discussed above Martin

disclosed a means for obtaining the stream bandwidth and a means for including the obtained

bandwidth within an RSVP Path message Tspec object. However, Martin fails to disclose a

means for obtaining a differentiated services codepoint (DSCP) value that is based on the

bandwidth of the stream. Martin also fails to disclose the intermediate network device of claim

17 wherein the RSVP transmitter proxy is configured to load the DSCP into the RSVP Path

message generated and sent on behalf of the server. Martin further fails to disclose the

intermediate network device of claim 18 wherein the RSVP Path message includes a DCLASS

object containing the DSCP.

Nonetheless, the use of RSVP Path messages that contain differentiated services

codepoint (DSCP) values within DCLASS objects was well known as evidenced by RFC 2996

(Abstract). In an analogous art, RFC 2996 disclosed the use of DCLASS objects within RSVP

messages in order to enhance the manageability of application traffic QoS in a differentiated

service network (RFC 2996 Abstract). Thus, it would have been obvious to one of ordinary skill

in the art to design the Martin system to obtain a differentiated services codepoint (DSCP) value

that is based on the bandwidth of the stream, in order "to enhance the manageability of

application traffic QoS in a differentiated service network" (RFC 2996, Abstract). Further, it

would have also been obvious to include within an RSVP path message, the determined DSCP

value in a DCLASS object, given that such usage is disclosed in the RFC 2996 protocol and

would enhance the manageability of application traffic QoS in a differentiated service network

(RFC 2996, Abstract).

3. Claims 22-25, 27, 29-32, 34, 36, 38-40, 42-44, 46-49 are rejected under 35 U.S.C. 103(a)

as being unpatentable over Martin and the Real-Time Streaming Protocol (RTSP) RFC

2326 (hereinafter RTSP) and The Use of RSVP with IETF Integrated Services RFC 2210

(hereinafter RSVP'2210) and Resource ReSerVation Protocol (RSVP) – Version 1

Functional Specification RFC 2205 (hereinafter RSVP'2205) and SDP: Session Description

Protocol RFC 2327 (hereinafter SDP) and Merwe et al. (mmdump: A tool for Monitoring Internet Multimedia Traffic; hereinafter Merwe).

In considering claims 22-24, 29-31, 36, 38-40, 42-44, and 46-49 these claims are rejected using a similar rationale as applied to claim 1 and in view of the following. Martin disclosed the invention substantially as claimed however Martin failed to specifically recite receiving a message from a client to a server, wherein the client message requesting that the server begin sending a traffic flow to the client. Further Martin failed to specifically recite receiving a response message from the server, the response message responding to the message from the client. Nevertheless Martin disclosed the detection of a flow from a server to a client (Col 3, lines 15-20). Further it was also well known in the art at the time of the invention to detect the start of a flow based on a client request and server response, as evidenced by Merwe. In an analogous art, Merwe disclosed a system for monitoring multimedia traffic flows using the RTSP protocol (abstract). The Real Time Streaming Protocol (RTSP) is the dominant control protocol for controlling the streaming of content on the Internet (Sect. 2.2). Merwe's system detects client requests for the server to begin sending a traffic flow (RTSP describe message) and the corresponding server response (media specific information about the stream) (Section 2.2 and Figure 1). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Martin's system to detect traffic flows based on the client request and server response pair of RTSP as disclosed by Merwe (Section 2.2), since the RTSP protocol is the dominant control protocol for streaming content on the Internet (Merwe Sect 2.2. 1st ¶).

In considering claims 25, 27, 32, and 34, Martin disclosed means for reading (snooping) messages received by the router parameters of a traffic flow, the traffic flow requested by the

client for the server to transmit to the client (determining that the data packet meets RSVP sender host proxy criteria) (Col 3, lines 21-22).

4. Claims 28 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin and the Real-Time Streaming Protocol (RTSP) RFC 2326 (hereinafter RTSP) and The Use of RSVP with IETF Integrated Services RFC 2210 (hereinafter RSVP'2210) and Resource ReSerVation Protocol (RSVP) – Version 1 Functional Specification RFC 2205 (hereinafter RSVP'2205) and SDP: Session Description Protocol RFC 2327 (hereinafter SDP) and Merwe et al. (mmdump: A tool for Monitoring Internet Multimedia Traffic; hereinafter Merwe) as applied above and further in view of Gai et al. (RSVP Proxy – Internet Draft; hereinafter Gai).

In considering claims 28 and 35, as discussed above Merwe disclosed receiving first message by the router, the first messages originating from computers connected to the Internet and directed to the server (Sect. 2.2. DESCRIBE message) and receiving second messages by the router, the second messages originating from the server and directed to client connected to the internet (Sect. 2.2. server response – media specific information). However both Martin and Merwe failed to specifically recite connecting the router one hop away from the server. In an analogous art, Gai disclosed an RSVP Sender Proxy (see Section 3) analogous to Martin's proxy. Gai disclosed the router (RSVP proxy) is one hop away from the server (Figure 1) such that the most Path message enabled additional downstream network elements can benefit from the information carried in the signaling messages (Section 4, Where to Proxy). It would have been obvious to one of ordinary skill in the art at time of the invention to incorporate the teachings of

Gai within the combined Martin and Merwe system so that the most Path message enabled

downstream network elements can benefit from the information carried in the signaling messages

(Gai Section 4, Where to Proxy).

Allowable Subject Matter

Claims 37, 41, and 45, would be allowable if rewritten to include all of the limitations of

the base claim and any intervening claims. Claims 26 and 33 are allowed.

Conclusion

1. The prior art made of record, in PTO-892 form, and not relied upon is considered pertinent

to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Sean Reilly whose telephone number is 571-272-4228. The

examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Glen Burgess can be reached on 571-272-3949. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

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August 24, 2006

KRISNA LIM
PRIMARY EXAMINER